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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Christopher A. Rygaard

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EXAMINER

KANG, INSUN

ART UNIT

PAPER NUMBER

2193

NOTIFICATION DATE

DELIVERY MODE

01/23/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/686,897	<b>Applicant(s)</b> RYGAARD, CHRISTOPHER A.	
	<b>Examiner</b> INSUN KANG	<b>Art Unit</b> 2193	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 October 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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### DETAILED ACTION

1. This action is in response to the amendment filed on 10/13/2008.
2. Claims 1-42 are pending in the application.

#### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ad Astra ( "Jumping Beans," Ad Astra Engineering, 12/3/1998, pages 1-44) hereafter "Astra" in view of Zhou et al. ("Adaptation and Specialization for High performance Mobile Agents," USENIX, 1999) hereafter Zhou.

Per claim 25:

Astra discloses:

-management and security console (i.e. "Jumping Beans' central management console," abstract, page 1, paragraph 3; Jumping Beans' security features, under security section in page 5); two or more host computers connected to the console by a computer network, wherein each host computer executes a jumping application (i.e. "Jumping Beans...which can move from host to host during execution," page 1, first paragraph; page 8, Figure 1.).

Astra discloses mobile code easily integrating with the hosts environments (i.e. page 5, Integration into existing environments section). Astra does not explicitly teach that the console

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includes a morphing module that alters a jumping application. However, Zhou teaches such a system having a morphing module was known in the pertinent art, at the time applicant's invention was made, to “submit agents in forms suitable for various platforms (i.e. page 11, lines 1-3).” Zhou further teaches that morphing can be “triggered at any point during agent execution (page 7, left col., third par.) Therefore, in Zhou, it is possible to initiate the morphing process before, in transit, or after a jump whichever is preferred. When the morphing process is performed in transit, a faster execution can be achieved. It would have been obvious for one having ordinary skill in the art to modify Astra’s disclosed system to incorporate the teachings of Zhou. The modification would be obvious because one having ordinary skill in the art would be motivated to change “the form of a mobile agent to adapt to the specific platform on which it is currently running (page 6, section 3.1 Agent Morphing).”

Zhou further teaches that morphing can be “triggered at any point during agent execution (page 7, left col., third par.) Therefore, in Zhou, it is possible to initiate the morphing process before, in transit, or after a jump whichever is preferred. When the morphing process is performed in transit, a faster execution can be achieved. Accordingly, it would have been obvious for one having ordinary skill in the art to modify Zhou’s disclosed system to perform the morphing process as the jumping application jumps between hosts, wherein the morphing module receives the jumping application from a first host and alters the jumping application before sending the jumping application to a next host, so that a faster execution of the morphed agent can be achieved.

Zhou further discloses a database that contains one or more behavior packages for the jumping application, wherein each behavior package alters the behavior of the jumping

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application for a particular host (i.e. “trusted repository to which providers submit agents in forms suitable for various platforms,” page 11, lines 1-3) .

Astra in view of Zhou further discloses wherein the morphing module includes instructions that determine the next host to which the jumping application is being dispatched and instructions that alter the behavior of the jumping application for the next host using a first behavior package associated with the next host (i.e. Itinerary section in page 10 which specifying the dispatch path which a mobile application will follow in order and the agencies which the mobile application will visit).

Per claim 26:

Astra further discloses:

- the console instructions that determine the next host further comprises instructions that identify the next host of the jumping application based on an itinerary of the jumping application (i.e. Itinerary section in page 10 which specifying the dispatch path which a mobile application will follow in order and the agencies which the mobile application will visit).

Per claim 27:

Astra further discloses:

- the console instructions that alter the behavior of the jumping application further comprise instructions that gather information about each host of the jumping

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application system in order to determine the capabilities of each host (i.e. see Remote data gathering section, page 4).

Per claim 28:

Zhou further discloses:

- the console instructions that gather information further comprises instructions that store one or more particular behavior package associated with each host of the jumping application system wherein each behavior package adjusts one of a state and a behavior of a jumping application using the capabilities of the particular host (i.e. “the form of a mobile agent to adapt to the specific platform on which it is currently running,” page 6, section 3.1 Agent Morphing).

Per claim 29:

Zhou further discloses:

- the console instructions that alter the behavior further comprises instructions that identify a first behavior package associated with the next host for the jumping application and instructions that modify one of the state and the behavior of the jumping application using the identified behavior package (“the form of a mobile agent to adapt to the specific platform on which it is currently running,” page 6, section 3.1 Agent Morphing).

Per claim 30:

Astra further discloses:

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- instructions that forward the jumping application with the altered behavior onto the next host (i.e. see Store-and Forward section in page 6).

Per claims 31 and 32:

Astra and Zhou do not explicitly disclose one or more groups and each group contains one or more behavior packages associated with a set of capabilities of a host computer and the host computer is assigned to a group based on the capabilities of the host computer. However, it would have been obvious for one having ordinary skill in the art to modify Astra and Zhou's disclosed system to group hosts based on their similar characteristics and capabilities. The modification would be obvious because one having ordinary skill in the art would be motivated to group hosts with the similar capabilities for efficient database transaction.

Per claim 33:

Zhou further discloses:

- a plurality of behavior packages associated with each jumping application wherein each behavior package for the jumping application is associated with a particular set of capabilities of a host computer(i.e. "trusted repository to which providers submit agents in forms suitable for various platforms," page 11, lines 1-3)

Per claim 19:

Astra discloses:

- -receiving at a morphing console a jumping application dispatched from a first host during a jump between hosts (i.e. see Remote data gathering section, page 4).

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- determining a next host to which a jumping application is being dispatched (i.e. Itinerary section in page 10 which specifying the dispatch path which a mobile application will follow in order and the agencies which the mobile application will visit).

Astra discloses mobile code easily integrating with the hosts environments (i.e. page 5, Integration into existing environments section). Astra does not explicitly teach altering the behavior of the jumping application for the next host based on a behavior package associated with the next host. However, Zhou teaches such a system having a morphing module was known in the pertinent art, at the time applicant's invention was made, to “submit agents in forms suitable for various platforms (i.e. page 11, lines 1-3).” It would have been obvious for one having ordinary skill in the art to modify Astra’s disclosed system to incorporate the teachings of Zhou. The modification would be obvious because one having ordinary skill in the art would be motivated to change “the form of a mobile agent to adapt to the specific platform on which it is currently running (page 6, section 3.1 Agent Morphing)” as suggested by Zhou.

Astra further disclose dispatching the jumping application to the next host (i.e. Itinerary section in page 10 which specifying the dispatch path which a mobile application will follow in order and the agencies which the mobile application will visit).

Per claims 20-24, they are the method versions of claims 26-33, respectively, and are rejected for the same reasons set forth in connection with the rejection of claims 26-33 above.



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Per claims 1-9, they are the console versions of claims 25-33, respectively, and are rejected for the same reasons set forth in connection with the rejection of claims 25-33 above.

Per claims 10-18, they are other console versions of claims 25-33, respectively, and are rejected for the same reasons set forth in connection with the rejection of claims 25-33 above.

Per claims 34-42, they are the server computer versions of claims 25-33, respectively, and are rejected for the same reasons set forth in connection with the rejection of claims 25-33 above.

#### ***Response to Arguments***

5. Applicant's arguments filed on 10/13/2008 have been fully considered but they are not persuasive.

The applicant states that: in Zhou, all morphing occurs either on a host prior to migration or on a host after arrival. Zhou does not disclose a morphing console that alters a jumping application that is jumping between two or more hosts connected to the morphing console where the jumping application is received from a first host, altered, and sent to a next host. The morphing console is not a dispatching or receiving host. Consequently, the jumping application is altered as it is jumping between hosts, not before or after a jump. Zhou does not disclose morphing a jumping application while jumping between hosts. There is no particular disclosure of morphing after leaving a host but before arriving at a destination host. Thus, while there is a generic statement of morphing being triggered at any point, there is no enabling disclosure that the actual morphing occurs at any other locations than on the sending or receiving host. There is

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no disclosure or suggestion as to how the morphing can be triggered between hosts or how the morphing can occur during transit(remark, 11-12).

In response, as defined in the instant specification (page 1) and known in the art, the jumping application (a jumping app, a mobile app, or a mobile application, or a mobile agent) is a currently executing program that can migrate from one host to another host while it is being executed. While the applicant acknowledges that, in Zhou, the morphing can be performed before migration or after arrival, the applicant contradictorily states that there is no disclosure or suggestion as to how the morphing can be triggered between hosts. Zhou clearly recites that the morphing can be occurred not only before/after jumping but also at any point during agent execution (“triggered at any point during agent execution,” page 7, left col., third par.) which indicates that the morphing can be performed before a jump, during a jump, or after a jump. The applicant states that as the morphing console that is not a host that a mobile agent jumps to or from alters the jumping application, consequently, the jumping application is altered as it is jumping between hosts, not before or after a jump (remark, 11). Zhou also discloses that the management system that controls agents’ efficient execution transforms the agent-mode states into its native-mode representation by a set of functions within the native implementation (page 7 left col. 2<sup>nd</sup>-3<sup>rd</sup> paragraph). Therefore, Zhou also morphs the mobile agents by the management system not by a dispatching or receiving host that the agents migrate from or to, consequently, Zhou discloses the jumping application altered as it is jumping between hosts. Accordingly, Zhou’s morphing “at any point” is enabled by morphing the mobile agents as they jump by the management system.

***Conclusion***

**6. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to INSUN KANG whose telephone number is (571)272-3724. The examiner can normally be reached on M-R 7:30-6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis A. Bullock, Jr. can be reached on 571-272-3759. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Insun Kang/  
Examiner, Art Unit 2193